IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.	: 10/631,004	Confirmation No.	: 9537
First Named Inventor	: Thomas HACKL		
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Examiner	: D. C. Kramer		
Docket No.	: 037068.52641US		
Customer No.	: 23911		
Title	: Device for Controlling Brakes in a Commerical Vehicle		

REPLY BRIEF

Mail Stop Appeal Brief- Patents
Commissioner for Patents
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Sir:

Appellant submits this Reply Brief in response to the Examiner's Answer of December 19, 2005.

Appellant focuses its reply on the two major errors, among others, contained in the Examiner's Answer:

1) that the Appellant is "attacking references individually where the rejections are based on a combination of references"; and

2) that SETO teaches an electronically controlled brake system (EBS) because "an electronic controller and CPU are used to control the vehicle, see figures 1 and 4".

Each of these errors are addressed below, albeit in reverse order.

Seto Does Not Disclose An EBS System

Appellant's invention specifically distinguishes between known ACC systems and known electronically controlled brake systems (EBS). In that regard, EBS systems are commonly used in commercial vehicles, for example, heavy trucks and tractors. (See paragraphs 2 and 3). The EBS system is designed to distribute the braking force desired by a driver to the friction brake, i.e. the foundation brake, such as an air disc brake, and an additional retarding brake.

Appellant's independent claims 1 and 9 specify the use of both an adaptive distance regulation and driving speed device (for example, an ACC system) and an EBS system. By contrast, the electronic controller 4 shown and described with respect to SETO's figures 1 and 4, is an ACC controller. While it, no doubt, is "electronically operated" as all digital processors are, that does not make it an EBS system to those of skill in the art.

Therefore, even a combination of SETO and CHAKRABORTY, notwithstanding its inappropriateness, would not meet the limitations of Applicant's independent claims.

Appellant Attacks The Obviousness Combination, Not The References Individually

The starting point by which any obviousness analysis must begin is directed by the claimed invention. It must be understood that Appellant's invention is directed toward a system for controlling brakes of a *commercial*

vehicle, whereas the primary SETO reference is directed toward *automotive* vehicles. The operational characteristics and dynamics of these different vehicle categories are vastly different. Contrary to the Examiner's assertion, it is not just "the size of the parts" that are at issue, but rather the operational characteristics of those parts in order to handle, in an appropriate manner, the different dynamics of the different sized vehicles.

Thus, Appellant's invention starts from a commercial vehicle, which provides an electronically controlled brake system (EBS) designed to distribute a desired amount of braking force to a friction brake system and an additional active retarding brake during a normal "service brake" operation. This distribution is known as a "blending function" used in commercial vehicles. The EBS blending function operation is independent from the presence of an additional adaptive cruise control system (ACC) designed to influence the brake system.

To the contrary, in a passenger car's brake system, there is no such blending function present, as the brake system of a passenger car does not provide any active retarding brake. As a consequence, SETO does not at all relate to a commercial vehicle's brake system, as claimed, with a blending function (EBS), but rather to a typical passenger car's adaptive cruise control system (ACC). Such a passenger car's ACC system either uses friction brakes or an engine torque control – in the form of adjusting the throttle opening of a throttle valve located in the induction system of the engine (see page 3, paragraph 22) – to influence the car's speed. It does not use an active retarding

brake. Consequently, the SETO reference teaches in paragraph 32 that the processor of the ACC controller distributes the desired amount of braking force to a passive engine torque control and to a service brake for decelerating the automobile in the presence of a preceding vehicle detection. It does not teach a processor of an electronically controlled service brake system (EBS) having an integrated blending function. Indeed, such an EBS system is not even present in SETO.

As mentioned above, it is not the ACC system of a commercial vehicle, but rather its electronically controlled brake system (EBS) that is designed to distribute the desired amount of braking force to a friction brake system and an additional active retarding brake during a normal service brake operation. As a consequence, the primary SETO reference relied upon by the Examiner does not meet the prerequisites of the invention in the form of a commercial vehicle's EBS system having an integrated brake blending function. Thus, as an initial matter, one skilled in the art would not look to SETO for motivation in dealing with the commercial vehicle system claimed by Appellant.

Moreover, CHAKRABORTY teaches a commercial vehicle's cruise control system (ACC) where an engine retarder is controlled by a distance signal of a distance sensor. The ACC system is integrated in the engine control module (TCM) or in the transmission control module (See Fig. 1). There is no hint, or suggestion, to combine the function of CHAKRABORTY's ACC-system with a service brake *in the form of an EBS* providing also a friction brake.

Thus, as an initial matter, a combination of SETO and CHAKRABORTY would not be obvious to those of skill in the commercial vehicle brake system field as SETO teaches a typical passenger car's ACC system where a blending function is not performed by an EBS, but by the ACC controller, and where no active retarder is present. CHAKRABORTY only teaches a commercial vehicle's ACC system with no influence on the service friction brake. Even if SETO were to be combined with CHAKRABORTY, then it would still be the ACC controller that performs the blending function and not an EBS system controller, as recited in the present claims.

As described in Appellant's specification on page 3, paragraph 6, it is an important advantage of the invention that the function of distributing braking force to the friction brake and the retarding brake, which is already integrated into the EBS system of commercial vehicles, is also used to effect an allocation of braking force based upon an urgency signal that is modulated by the ACC system. Thus, this dual use of the EBS system allows for a very simple design of a commercial brake system. Specifically, the need to equip the ACC system with its own blending function for distributing braking force to a friction brake and a retarding brake, as is done according to the combination of SETO and CHAKRABORTY, can be eliminated.

In view of the foregoing, Appellant respectfully submits it is the combination of SETO and CHAKRABORTY that is erroneous, and that Appellant clearly points this out as set forth above.

Respectfully submitted,

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